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ABSTRACT

The development of evaluation criteria for Indiana's three-level system for delivering vocational and technical education (VTE) is described. The comprehensive program covers planning, delivery, and coordination. The coordinating body is the Indiana Commission on Vocational and Technical Education. State-level administering agencies are the Commission on Higher Education, Department of Employment and Training Services, and Department of Education. Programs are conducted by 302 school districts, 49 area vocational districts, 7 public postsecondary institutions, independent colleges and universities, private proprietary schools, community organizations, and other agencies. The Commission awarded Phi Delta Kappa International (PDK) a contract to develop evaluation criteria for VTE. PDK then contracted for a description of the state evaluation system, a review of pertinent research, and a study of practices used to evaluate VTE in other states. National and state advisory committees were also appointed. Criteria, focusing on program effectiveness, have been developed for all levels. For each criterion, process criteria were identified for use by agencies in their internal assessments. Additions or deletions in the process criteria may be necessary to insure applicability and relevance. Minimal reporting for the agency or program provider is balanced with the necessary amount of information for evaluation purposes. (TJH)

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DEVELOPMENT OF AN EFFECTIVENESS CRITERIA MODEL
FOR EVALUATING VOCATIONAL EDUCATION

by

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A Paper Presented at the 1990 Annual Meeting
of the
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Boston

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ARIZONA STATE UNIVERSITY



EXECUTIVE SUMMARY

Interest in evaluating vocational and technical education has increased with changes in the federally legislated evaluation requirements and the national interest in economic development. Rather than suggesting that vocational and technical education focus more on acquisition of specific skills, recent reform recommendations have stressed mastery of basic academic skills and preparation for multiple jobs during the working years.

Indiana's three-level system for delivering vocational and technical education is comprehensive and should facilitate program planning, delivery, and coordination. The coordinating body is the Indiana Commission on Vocational and Technical Education. The state-level administering agencies are the Commission on Higher Education, Department of Employment and Training Services, and Department of Education. Programs are conducted by 302 school districts, 49 area vocational districts, 7 public postsecondary institutions, independent colleges and universities, private proprietary schools, community-based organizations, and other agencies.

Within this context, the Indiana Commission on Vocational and Technical Education awarded Phi Delta Kappa International (PDK) a contract to develop evaluation criteria for vocational and technical education. PDK then contracted for a description of the current Indiana evaluation system, a review of the research on evaluation of vocational and technical education, and a study of practices used to evaluate vocational and technical education in other states. National and state advisory committees were appointed to assist in the project. Consistent with the current delivery system, criteria have been developed for the commission, state agencies, and local program providers.

To maximize local flexibility in conducting and evaluating programs and to recognize that different approaches can be used to achieve similar goals, the central focus of these recommended criteria for evaluating vocational and technical education in Indiana is on program effectiveness. The historical contention has been that program outcomes cannot be measured effectively because of a lack of agreement on goals and variations in inputs and practices. However, current evaluation practices assume that program inputs and processes can vary but that standard criteria can be used to measure program effectiveness and outcomes.

For each effectiveness criterion, process criteria were identified that then could be used by agencies in their internal assessment of the extent to which effectiveness criteria have been attained. Additions or deletions in the process criteria may be necessary to ensure applicability and relevance. In designing this evaluation process, the goal has been to find the balance between minimal reporting for the agency or program provider and the information required to evaluate the programs.

DEVELOPMENT OF AN EFFECTIVENESS CRITERIA MODEL FOR EVALUATING VOCATIONAL EDUCATION

This paper provides background information and analysis on a project to develop a set of criteria for evaluating the effectiveness of the State of Indiana's administrative structure and delivery system for vocational education programs.

Rationale for the Project

Interest in evaluating vocational and technical education has increased with changes in the federally legislated evaluation requirements and the national interest in economic development. Rather than suggesting that vocational and technical education focus more on acquisition of specific skills, recent reform recommendations have stressed mastery of basic academic skills and preparation for multiple jobs during the working years.

The national emphasis on evaluating vocational education is shifting from inputs to outcomes or program effectiveness. However, complete reliance on summative evaluation neglects a systematic review of the extent to which the management and planning system is supporting the vocational education delivery system. In the context of this discussion, effectiveness criteria encompass traditional outputs as well as a management audit of the extent to which the various agencies and delivery sites are meeting their legal and leadership responsibilities.

Even though the educational outcome focus has been in effect for almost five years, only a few states have developed evaluation systems for meeting the federal requirement. The principal issues are related to what is to be evaluated, what evaluation system or model should be used, and which level--state or local--should conduct the evaluation. State and local agencies also have been slow to respond because changing federal priorities have contributed to a variety of definitions, changes in program focus, and additional target populations.

The shift from traditional input/process evaluation to outcome evaluation has forced state-level decision makers to address the issues of the definition and purpose of vocational and technical education. Both state and local agencies are seeking ways to

measure and report student progress and linkages between programs and on-the-job tasks. The principal trends appear to focus on transferable and specific occupational skills, reliance on individualized programs, evaluation as a local function, development of state technical assistance programs, and an expanded base for types of programs and program participants.

Policy and management decisions at the state and local levels will be affected by implementation of this model evaluation process. The challenge for state-level leaders and program administrators may be to reconcile the emphasis on effectiveness criteria for a performance-driven program in a vocational and technical education system with the premises of an historical delivery system and program that is enrollment-driven.

The challenges in designing an evaluation system are to secure sufficient information to meet the demands for accountability from governmental agencies, employers, and the general public, but to refrain from gathering unnecessary information. Stated differently, in making decisions, "need to know" must be contrasted with "nice to know." However, evaluation has a function beyond providing state and federal agencies with monitoring data. The maximum contribution at the program delivery level is attained when the program evaluation process provides the information base for decisions about program focus, program improvement, and program changes. In this context, program evaluation information is the primary source for program policy decisions.

Perspective of the Project

In a departure from tradition, but consistent with federal statutes and the professional literature, the Indiana Commission on Vocational Technical Education contracted with Phi Delta Kappa (PDK) to prepare a set of outcome-oriented effectiveness criteria for use in evaluating the system for vocational and technical education in Indiana. Phi Delta Kappa also was asked to propose an implementation plan for the criteria. National and state advisory committees were involved, and the PDK staff served as a project management team. Research projects were conducted by faculty from Ohio State University and the evaluation center at Western Michigan University.

Indiana's three-level system for delivering vocational and technical education is comprehensive and should facilitate program planning, delivery, and coordination. The coordinating body is the Indiana Commission on Vocational and Technical Education. The state-level administering agencies are the Commission on Higher Education, Department of Employment and Training Services, and Department of Education. Programs are conducted by 302 school districts, 49 area vocational districts,

7 public postsecondary institutions, independent colleges and universities, private proprietary schools, community-based organizations, and other agencies.

Within this context, the PDK study included a description of the current Indiana evaluation system, a review of the research on evaluation of vocational and technical education, and a study of practices used to evaluate vocational and technical education in other states. Consistent with the structure of the current delivery system, criteria have been developed for the commission, state agencies, and local program providers.

PDK's recommended evaluation system has several distinctive features. This performance-driven model was developed even though historical evaluation efforts have been input-oriented and fiscal allocations have been enrollment-driven. Sources of information for criteria and procedures included the general literature on evaluation, specific literature on evaluation of vocational education, and existing practices. Much has been written about the criteria and the processes of program evaluation, but little has been written about what should be done as a consequence of the evaluation. A methodology for follow-up to the assessment was included as an integral part of the model evaluation process.

Under the evaluation system, programs are to be evaluated on the basis of their effectiveness as measured by the employability and work-success of program completers. This direction may be inconsistent with traditional evaluation procedures and vocational education funding practices, but it reflects the public's expectations of vocational education programs.

By focusing on program effectiveness, the premise of Phi Delta Kappa's is that attention will be given to program inputs when low program performance suggests the need for program improvements. In designing this evaluation system, a high value was placed on minimal reporting requirements and the capacity to adapt the evaluation system to different situations.

Methodology

To maximize local flexibility in conducting and evaluating programs and to recognize that different approaches can be used to achieve similar goals, the central focus of these recommended criteria for evaluating vocational and technical education in Indiana is on program effectiveness. The historical contention has been that program outcomes cannot be measured effectively because of a lack of agreement on goals and variations in inputs and practices. However, current evaluation practices assume that program inputs and processes can vary but that standard criteria can be used to measure program effectiveness and outcomes.

Data for this study were obtained from the following sources:

1. Field studies of Indiana's administrative structure and vocational education practices and evaluation procedures.
2. A report from the evaluation center at Western Michigan University that consisted of a review and analysis of the general literature on evaluation of vocational and technical education and a review of the practices and systems used by selected states in evaluating these programs.
3. Candidates for criteria from research reports for this study, other evaluation systems, statutes, regulations, program planning documents, and policy papers on the administration and delivery of vocational and technical education in Indiana.
4. Discussions of evaluation systems and processes with a statewide advisory group of vocational educators.

The following procedures were used in conducting this study:

1. A detailed study was made of the current system and the responsibilities assigned to the three state agencies responsible for vocational education in Indiana.
2. Current procedures used by the three agencies in evaluating vocational education were identified, analyzed, and compared.
3. A synthesis document was prepared after a detailed review of the literature on criteria used in evaluation systems for vocational education.
4. Particular practices used in selected states were analyzed in terms of their application to Indiana.
5. Effectiveness and process criteria for evaluating vocational education were developed for each of the three levels--Commission, three state agencies, and local program providers. For each effectiveness criterion, process criteria were identified that could then be used by agencies in their internal assessment of the extent to which effectiveness criteria have been attained.
6. The National Advisory Committee reviewed and validated the criteria. After the critique by the National Advisory Committee, the report included 26 effectiveness criteria for the program providers, 21

for the state agencies, and 23 for the commission, making a total of 70 criteria. (The focus of the effectiveness criteria and one group of effectiveness and process criteria may be found in the Appendix.)

7. Suggested procedures were developed for the Commission to use in implementing the program for evaluating vocational education.

Results and Conclusions

The principal results and conclusions from this study were:

1. Effectiveness criteria for evaluating the vocational education delivery system can be identified and used to examine results in terms of the product of the system and the management process used in delivering the product. The design of the evaluation assumes that additions or deletions may be made in the process criteria to ensure applicability and relevance. In designing this evaluation process, the goal was to find the balance between minimal reporting for the agency or program provider and the information required by state agencies and policy-makers to evaluate the programs.
2. Many current evaluation criteria being used by states are overly simplistic and provide summative information that will be of limited value in efforts to improve vocational education programs.
3. Even though vocational education delivery systems vary dramatically among the states, the commonalities in administrative organization and delivery systems are sufficient to justify efforts to transfer and modify evaluation systems among states.
4. Vocational education delivery site administrators tend to be much more concerned about how evaluation criteria will be applied and what data and reports will be required than about the substance of the criteria.
5. The consequences to the evaluation are more important than the process; therefore, follow-up assessments are an integral part of the model evaluation process.
6. Any new set of criteria should be field-tested and used on a demonstration basis before formal adoption and installation. This process assumes that localities and state agencies will develop an evaluation plan.

REFERENCES

- Brannon, D. R. (1985). Toward Excellence in Secondary Vocational Education: Using Evaluation Results. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Buttram, J., K. Kershner, S. Rioux, and R. Dusewicz (1987). "An Evaluation of Competency-based Vocational Education in Pennsylvania: Five Years Later." Journal of Vocational Education Research, 12 (4), 35-55.
- Campbell, P. B., and P. Panzano (1985). Toward Excellence in Secondary Vocational Education: Elements of Program Quality. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Carl D. Perkins Vocational Education Act of 1984 (1984). Washington: United States Congress.
- Clodi, D. R., and J. Jacobson (1989). "The Future and America's Schools." The School Administrator, 46 (4), 15-16, 18.
- Darcy, R. L. (1979). Vocational Education Outcomes: Perspectives for Evaluation. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Education and Jobs for Indiana's Future: A Long-Range Plan for a Comprehensive Vocational Education Program in Indiana (1988). Indianapolis: Indiana Commission on Vocational and Technical Education.
- Farley, J. F., McKinney, A. Kohan, M. Smith, and F. Pratzner (1985). Reconceptualization of Vocational Education Program Evaluation. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Gourley, M. E. (1989). Evaluation Criteria Recommended for the Assessment of Secondary Vocational Education Programs and Services. Kalamazoo: The Evaluation Center, Western Michigan University.
- Grasso, J.T. (1979). Impact Evaluation in Vocational Education: The State of the Art. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Investing in Our Children (1985). New York: Committee for Economic Development.
- Job Training Partnership Act of 1982 (1982). Washington, D.C.: United States Congress.

- Kadamus, J. A., and W. R. Daggett (1986). New Directions for Vocational Education at the Secondary Level. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Leske, G., and J. Persico, Jr. (1984). Indicators of Quality in Cooperative Vocational Education: A Review and Synthesis of Research. St. Paul: Minnesota Research and Development Center for Vocational Education, University of Minnesota.
- Lindeman, A. (1984). State Concerns in the Future Development of Vocational Education. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- McCaslin, N. L., and J. Lave (1976). Needs Assessment and Career Education: An Approach for States. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Madaus, G. F., M. Scriven, and D. L. Stufflebeam (1983). Evaluation Models: Viewpoints on Educational and Human Services Evaluation. Boston: Kluwer-Nijhoff.
- Mitzel, H. E. (ed.) (1982). Encyclopedia of Educational Research (5th ed., vol. 4). New York: Free Press.
- National Commission on Secondary Vocational Education (1984). The Unfinished Agenda: The Role of Vocational Education in the High School. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Phi Delta Kappa (1989). Evaluation Criteria for Employment-Related Education and Training Programs. Bloomington, Indiana.
- Phi Delta Kappa (1989). A Review of Current Vocational and Technical Education Evaluation Systems in Indiana. Bloomington, Indiana.
- Silberman, H. F. (1983). Determining Goals for Vocational Education. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Starr, H. (1986). Increasing Vocational Program Relevance: A Data-based Approach. Columbus: The National Center for Research in Vocational Education, Ohio State University.
- Walker, R. (1989). "'2+2' Vocational Programs Drawing Attention of State, U.S. Policy Makers." Education Week, 8(25), 25.
- Wentling, T. L., and W. S. Barnard (1982). "A Study of State Evaluation Practices in Vocational Education." Journal of Vocational Education Research, 7(3), 42-54.

APPENDIX

Sample Set of Process Criteria with the Effectiveness Criterion

4.0 PROGRAM DESIGN AND DELIVERY

Effectiveness Criterion 4.1: Program Design Decisions--Delivery systems accommodate the special needs of program participants and provide for exposure to and participation in actual work settings.

Process Criteria:

- 4.1.1 Program Content and Delivery--In making decisions about program content and delivery, emphasis is placed on field work-setting experiences, program adaptation and responsiveness to participant needs, career awareness on the part of program participants, and staff development.
- 4.1.2 Cooperative Education--Where applicable and feasible, the system for delivering instruction provides cooperative education opportunities for program participants.
- 4.1.3 Alternative Delivery Systems--The program delivery schedule includes opportunities for evening programs, exit and re-entry options, and observations and participation in applied settings.

Effectiveness Criterion 4.2: Curriculum Decisions--Program provider administrators use a systematic and comprehensive approach in making curriculum decisions and use data related to the immediate service area, program participants, and the goals and functions of related agencies and institutions.

Process Criteria:

- 4.2.1 Technology Education Curriculum--Program provider considers the technology education curriculum in making local curricular decisions.
- 4.2.2 Development--Program provider and community resources are used in the development of the structure of the overall curriculum.
- 4.2.3 Instructional Objectives--Written statements specify knowledge, competencies, and behaviors that program participants are to demonstrate under specified conditions.

- 4.2.4 Competency-Based Instruction--Program learnings, experiences, and evaluations are structured to provide information that the program participants possess the desired competencies.
- 4.2.5 Teaching Methods--Teaching methods and time on task vary depending on the needs of the program participants and the content.
- 4.2.6 Participant Feedback--Instructors seek and utilize participant evaluations and feedback in planning program delivery.
- 4.2.7 Revision--Program participant assessment results are used to diagnose curriculum revision needs.
- 4.2.8 Integration--Where applicable, the academic, general, basic skills, and vocational education course goals in the program provider institution are integrated into the total experiences of the program participant.
- 4.2.9 Transfer of Learnings--Emphasis is placed on the use of skills and knowledge in multiple settings.
- 4.2.10 Articulation--Program provider uses procedures for curriculum articulation within and among departments and institutions.

Effectiveness Criterion 4.3: Instructional Decisions--Program components are designed to make participants aware of career opportunities, reinforce positive work attitudes, attain basic skills, develop employability skills, and learn specific occupational skills and good safety practices.

Process Criteria:

- 4.3.1 Awareness, Orientation, and Exploration--Potential and current program participants are provided opportunities to secure information related to career awareness, career orientation, and career exploration.
- 4.3.2 Occupational Skills--Instructional programs focus on developing those occupational skills related to the entry-level goals of the specific occupation.
- 4.3.3 Safety--Programs emphasize the importance of safety procedures in both the school setting and the applied setting.
- 4.3.4 Safety Instructions--Verbal and written on-the-job and in-school safety rules and procedures are provided to program participants and enforced.

Effectiveness Criterion 4.4: Staff Development--Program provider takes steps to ensure that the staff has and will continue to develop the qualifications and skills to provide the selected programs.

Process Criteria:

- 4.4.1 Personnel Recruitment--Job opening information is unbiased, nonrestrictive, and designed to attract a talented group of employees.
- 4.4.2 Personnel Preparation--Personnel possess the specialized and general knowledge and relevant state license or certificate required for the job.
- 4.4.3 Personnel Selection--Equal employment opportunity and affirmative action procedures are observed in selection of applicants.
- 4.4.4 Staff Assessment--Staff development needs are developed after professional qualifications and skills of instructional and administrative staff are matched to program structure, program content, and program delivery.
- 4.4.5 Staff Evaluation--An organized staff evaluation program provides an assessment of job performance and feedback regarding strengths and areas of concern.
- 4.4.6 Inservice Programs--Staff development programs are being provided to respond to the identified needs of the staff.

Effectiveness Criterion 4.5: Funds--Required human and material resources are appropriately allocated within and among programs.

Process Criteria:

- 4.5.1 Budget--Annual budgets are prepared to ensure that the funding level for each program is sufficient to provide the required human and materials resources.
- 4.5.2 Fiscal Analysis--Expenditures are analyzed to determine if funds were expended for the intended purpose and if modifications should be made in the budget for the next budget cycle.

FOCUS OF EFFECTIVENESS CRITERIA

Program Providers	State Agencies	Commission
Structure	Structure	Duties of the Commission
Planning	Long-Range Plan	Long-Range Plan
Diagnostic Assessment	Agency Leadership	Program Delivery
Program Design and Delivery	Articulation	Articulation
Participant Outcomes	Technical Assistance	Technical Assistance
Program Accountability	Professional Personnel Development	Vocational and Technical Education Evaluation Criteria
Fiscal Accountability	Fiscal Accountability	Professional Personnel Development
Cost Effectiveness	Partnerships	Financial Resources/Responsibilities
Facilities and Equipment		Partnerships
Partnerships		

FOCUS OF THE EFFECTIVENESS CRITERIA
FOR EVALUATING
INDIANA VOCATIONAL AND TECHNICAL EDUCATION

Program Providers

Structure

Philosophy and Organization

Planning

Local Comprehensive Plan

Diagnostic Assessment

Program Design and Delivery

Program Design Decisions

Curriculum Decisions

Instructional Decisions

Staff Development

Funds

Participant Services

Program Access

Program Services

Program Breadth

Partnerships

Partnership Programs

Technology Education Curriculum

Facilities and Equipment

Participant Outcomes

Demonstrated Competency

Job-Related Tasks

Program Accountability

Enrollment/Completion Targets

Related Employment

Gainful Employment

Salaries

Job Stability

Employee Satisfaction

Postprogram Education

Fiscal Accountability

Fiscal Audits

Cost Effectiveness

State Agencies

Structure

- Statement of Purpose and Administrative Organization

Long-Range Plan

- Consistency with Commission's Long-Range Plan
- Goal Relevancy

Agency Leadership

- Coordination
- Communication
- Professional Relationships
- Program Guidelines
- Program Provider Long-Range Review

Fiscal Accountability

- Priorities and Goals
- Sufficient Funds
- Funds Allocation

Technical Assistance

- State-Level Technical Assistance

Program Evaluation

- Program Evaluation
- Utilization of Data

Articulation

- Institutional Transition

Professional Personnel Development

- Teacher Certification
- Sufficient Staff
- Teacher Skill Improvement
- Tax Incentives for Teachers

Partnerships

- Partnership Programs
- Technology Education Curriculum

Commission

Long-Range Plan

Commission's Long-Range Plan

Duties of the Commission

Enactment of Recommendations
Coordination
Federal Funds
Communication

Financial Resources/Responsibilities

Priorities and Goals
Funds Allocation
Private-Sector Tax Incentives
Foundation
Fiscal Audits

Program Delivery

Program Provider Evaluation
Statewide Program Evaluation
System Program Effectiveness

Articulation

Institutional Transition

Professional Personnel Development

Teacher Certification
Sufficient Staff
Teacher Skill Improvement
Tax Incentives for Teachers

Partnerships

Partnership Programs
Technology Education Curriculum

Technical Assistance

State-Level Technical Assistance

Vocational and Technical Education Evaluation Criteria

Program Evaluation
Utilization of Data